

Montana Department of Fish, Wildlife & Parks

1400 South 19th Avenue, Bozeman MT, 59718

Draft Environmental Assessment

Introduction of Westslope Cutthroat Trout to Little Tepee Creek, Madison River Drainage

PART I. PROPOSED ACTION DESCRIPTION

1. Type of Proposed State Action:

The proposed action is to introduce native westslope cutthroat trout (WCT; *Oncorhynchus clarki lewisi*) into Little Tepee Creek, a fishless stream in the Madison River drainage near West Yellowstone, MT. The project is designed to increase the overall distribution of WCT, a rare native species in the upper Missouri River drainage, and to help preserve the genetic legacy of local WCT populations.

2. Agency Authority for the Proposed Action

- Montana Fish, Wildlife & Parks (FWP) is required by law to implement programs that manage sensitive fish species in a manner that assists in the maintenance or recovery of those species, and that prevents the need to list the species under 87-5-107 or the federal Endangered Species Act. Section 87-1-201(9)(a), M.C.A.
- FWP signed the *Memorandum of Understanding and Conservation Agreement for Westslope Cutthroat Trout and Yellowstone Cutthroat Trout in Montana* (FWP 2007) which states: “The management goals for cutthroat trout in Montana are to: 1) ensure the long-term, self-sustaining persistence of each of the subspecies distributed across their historical ranges, 2) maintain the genetic integrity and diversity of non-introgressed populations, as well as the diversity of life histories represented by remaining cutthroat trout populations, and 3) protect the ecological, recreational, and economic values associated with each subspecies.”

3. Name of Project

Introduction of Westslope Cutthroat Trout to Little Tepee Creek, Madison River Drainage

4. If Applicable:

Estimated Construction/Commencement Date: June/ July 2010

Estimated Completion Date: 2012 - 2014

Current Status of Project Design (% complete): 100%

5. Location Affected by Proposed Action (county, township and range)

Little Tepee Creek, Gallatin County (T11S R5E), 13 miles north of West Yellowstone, MT.

6. Project Size: Estimate the number of acres that would be directly affected that are currently:

1. Developed/ residential – 0 acres
2. Industrial – 0 acres
3. Open space – 0 acres
4. Wetland/ riparian – 0 acres
5. Floodplain – 0 acres
6. Irrigated cropland – 0 acres
7. Dry cropland – 0 acres
8. Forestry – 0 acres
9. Rangeland – 0 acres
10. Other – genetically pure WCT would be introduced into 2 miles of stream

7. Map/site plan: See Figure 1.

8. Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction.

The U.S. Forest Service (Gallatin National Forest) manages lands within the Little Tepee Creek drainage (Figure 1). The Forest Service and FWP are cosigners of a Memorandum of Understanding and Conservation Agreement (MOU; FWP 2007) that outlines the agreement between agencies regarding conservation and restoration of WCT in Montana. Management measures outlined in the MOU include the introduction or reintroduction of genetically pure WCT where necessary to aid in their conservation.

(a) **Permits:** N/A

(b) **Funding:**

This project would be part of the larger WCT conservation program in FWP Region 3, and would be primarily implemented by FWP staff dedicated to such efforts. The WCT conservation program is funded through state, federal, and private dollars. As part of the Gallatin National Forest fisheries program, fisheries personnel from the Forest may participate in some aspects of the project. Anticipated resource demands are discussed on page 11.

(c) **Other Overlapping or Additional Jurisdictional Responsibilities:**

<u>Agency Name</u>	<u>Type of Responsibility</u>
U.S. Forest Service, Gallatin National Forest	Management of federal lands within the Little Tepee Creek drainage

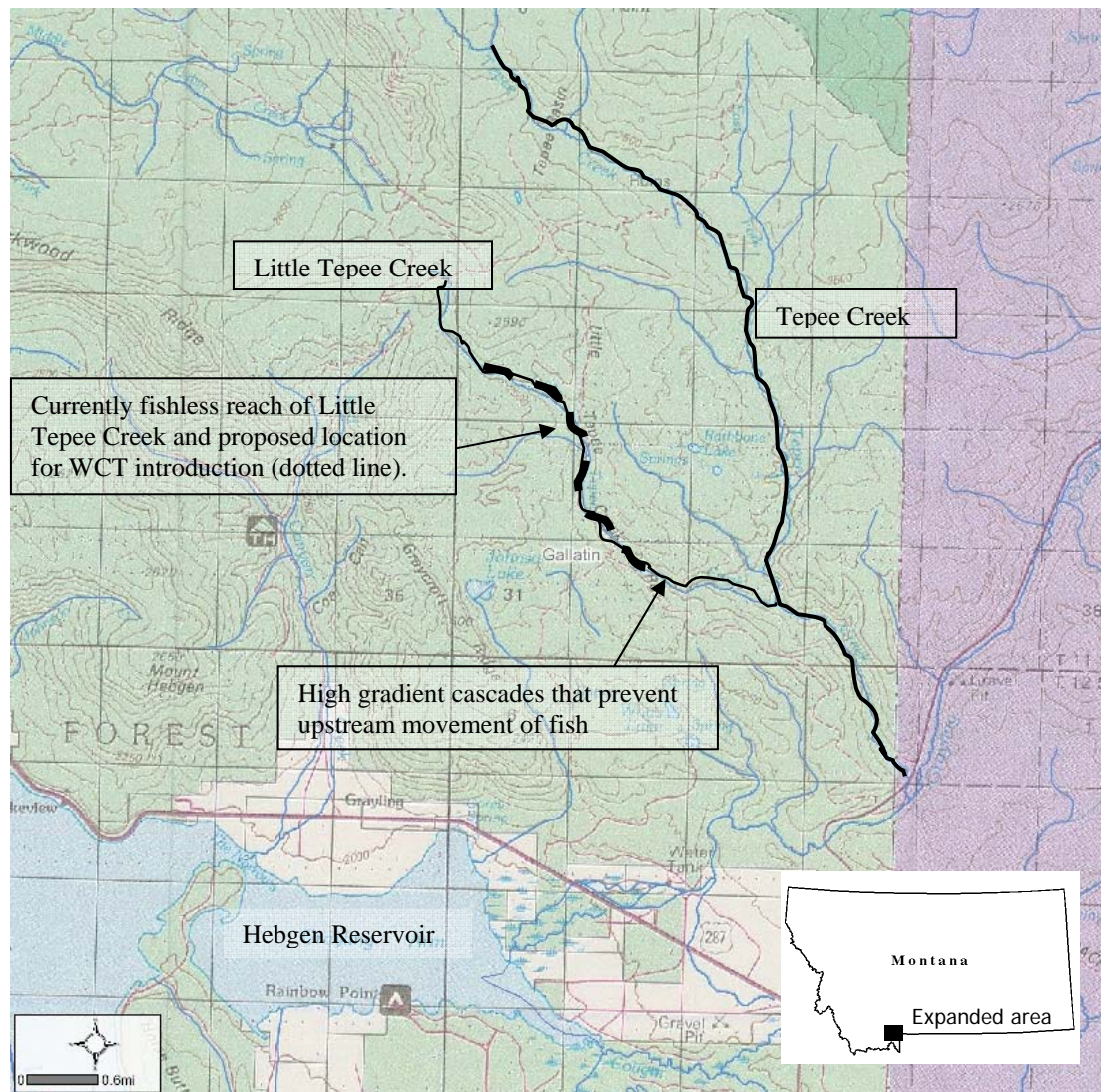


Figure 1. Map depicting the location of Little Tepee Creek and the currently fishless stream reach (dotted line) where native WCT are proposed for introduction.

9. Narrative summary of the proposed action or project including the benefits and purpose of the proposed action:

Background

Westslope cutthroat trout, Montana's state fish, has declined in abundance, distribution, and genetic diversity throughout its native range (Shepard et al. 2003). Reduced distribution of WCT in Montana is particularly evident in the upper Missouri River basin where genetically "pure" (i.e., not crossed with hybridizing nonnative species) populations are estimated to reside in about 5% of habitat they historically occupied. In the Madison River drainage, the location of the proposed project, only two aboriginal and genetically pure WCT populations are known to persist (Last Chance and McClure creeks). In total, these populations maintain fewer than 1,000 WCT and only occupy about 5 miles of stream, or less than 0.5% of their estimated historic range in the drainage. A recent WCT restoration effort in Cherry Creek, near Ennis, has established the only other genetically pure WCT population in the Madison River drainage.

Major factors contributing to the decline of WCT include competition with nonnative trout (brook, brown, and rainbow trout) that were first introduced to Montana in the 1890's, hybridization with rainbow and Yellowstone cutthroat trout, habitat changes, over-exploitation, and isolation to small headwater streams. Due to continued threats, most remaining WCT populations in the upper Missouri River basin are considered to have a low likelihood of long-term persistence (100 years) unless conservation actions are implemented (Shepard et al. 1997).

Long-term conservation of WCT in the upper Missouri River basin will require projects that preserve existing WCT populations in their native streams and projects that establish new WCT populations in secure habitats where they face no threats from introduced nonnative trout. By using existing populations as a donor source for establishing new populations, in theory, these efforts will serve to create "genetic reserves" for populations that may disappear from their native habitat. This concept is particularly important in areas like the Madison River drainage where few genetically pure populations remain.

Location of the Proposed Project

Little Tepee Creek is a second order stream (3 – 8 feet in width) that flows south-east from its headwaters in the Gallatin Mountain Range (elevation: 8,800 ft) to its confluence with Tepee Creek (elevation: 6,800 ft) near West Yellowstone, MT (Figure 1). The drainage maintains about 4.0 miles of perennially flowing stream. A series of natural, high-gradient cascades at river mile 1.0 prevent upstream fish movement.

Electrofishing surveys of Little Tepee Creek in 2009 indicated that hybridized WCT (i.e., WCT crossed with nonnative rainbow trout and Yellowstone cutthroat trout) occupy the stream up to the cascades, but upstream of the cascades the stream is currently fishless (Figure 1). A portion of the fishless reach, about 2 stream miles, is considered suitable habitat to support WCT, and land management activities by the Gallatin National Forest are consistent with WCT conservation (see Attachment 1). With adequate stream flow, width, depth, temperature, and the presence of high quality habitat provided by beaver ponds, it is estimated that the currently fishless reach could support 400 – 800 resident trout.

Description, Purpose and Benefits of the Proposed Project

The proposed project is to establish a WCT population in the currently fishless reach of upper Little Tepee Creek (above the cascades; Figure 1) by introducing fertilized eggs collected from native, upper Missouri WCT populations. Specific WCT introduction methodologies are detailed in Appendix 1. The

objectives of the proposed project are 1) to establish a WCT population, 2) to preserve the genetic legacy of rare aboriginal WCT populations, and 3) to establish a source of genetically pure WCT that could be used to supplement additional WCT introduction efforts.

For several reasons, Little Tepee Creek is an excellent location for this type of conservation effort. Foremost, a portion of the stream is currently fishless thereby providing an immediate opportunity to introduce WCT. A similar type WCT introduction project in a stream currently occupied by nonnative fish would require multiple-year efforts to eradicate the unwanted species using chemical or mechanical removal methods, and may require a costly fish migration barrier (generally \$25,000 - \$100,000) to prevent their reinvasion. Such efforts are essential for WCT restoration in large drainages, though in rare locations like Little Tepee Creek, WCT introductions to fishless streams can meet important WCT management needs. Naturally fishless reaches are common in many headwater streams, but habitat conditions in most are not suitable for viable WCT populations (e.g., the water is too cold or the fishless reach is too short). Little Tepee Creek is unique in that the currently fishless reach could potentially support an estimated 400 – 800 resident trout. Possible impacts to native fauna, like amphibians and aquatic invertebrates, are important considerations when FWP proposes fish introductions to currently fishless streams, and in the case of Little Tepee Creek, no significant impacts to sensitive species would be expected (see additional comments on page 8 and 9).

WCT introduction efforts like the proposed provide important opportunities to create “genetic reserves” of aboriginal WCT populations that may disappear from their native habitat. In the case of Little Tepee Creek, the preferred method to establish a WCT population would be to use gametes (eggs and sperm) from the only two remaining genetically pure aboriginal populations in the Madison River drainage – Last Chance and McClure creeks. Both populations are within 9 miles of Little Tepee Creek. The McClure Creek WCT population is considered “at-risk” by local biologists due to the small size of the population (200 – 300 fish) and habitat conditions that make it prone to natural disturbance. There are no opportunities to significantly reduce the current threats to the McClure population (e.g., population expansion), and “replication” of the population into other streams is considered critical for long-term conservation of possible unique genetic characteristics. The Last Chance Creek population (500 – 750 fish), Yellowstone National Park’s only remaining native WCT population, exists in just over 2 miles of isolated habitat and is also susceptible to natural disturbance, particularly wildfire. Transfer of gametes from both populations is considered necessary to create a genetically viable population in Little Tepee Creek over a reasonable period of time (3 – 5 years). The use of other suitable donor sources (e.g., genetically pure, native WCT populations in nearby river basins) could be necessary if unanticipated issues (e.g., presence of disease, genetics issues, or reduced population abundance) prevent the use of Last Chance or McClure creeks as donors.

Finally, the successful establishment of WCT in Little Tepee Creek could result in a valuable donor source for future WCT restoration efforts. Though no specific projects have been developed, it is anticipated that there will be additional proposals for WCT restoration projects in the Madison River drainage. A Little Tepee Creek WCT population could be developed as a local donor source for such projects, thereby reducing the need to exploit the Last Chance and McClure populations for eggs. Potential of a Little Tepee Creek WCT population as an egg donating source is enhanced by ease of access to the stream and habitat quality (i.e., beaver ponds) that indicates large fish and therefore a large number of eggs could be produced.

Summary of Project Benefits

With the successful establishment of a WCT population in the upper reaches of Little Tepee Creek, the specific benefits of the project would include:

- Increasing the number of genetically pure WCT populations in the Madison River drainage from 3 to 4 populations.

- Preserving the genetic legacy of rare Madison River drainage WCT.
- Establishing a source of genetically pure WCT that could be used to assist in additional WCT restoration efforts.
- Helping to achieve the management goal for cutthroat trout in Montana of long-term, self-sustaining persistence across the species historic range.

10. List of agencies consulted during preparation of the EA:

- Montana Fish, Wildlife & Parks, Townsend, Bozeman, Ennis, Great Falls, Helena and Missoula
- U.S.D.A. Forest Service, Gallatin National Forest, Bozeman
- U.S.D.I., National Park Service, Yellowstone National Park, Mammoth, WY

PART II. ENVIRONMENTAL REVIEW

1. Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment.

A. PHYSICAL ENVIRONMENT

1. <u>LAND RESOURCES</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. **Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?		X				
c. **Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other:						

2. <u>AIR</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. **Emission of air pollutants or deterioration of ambient air quality? (also see 13 (c))		X				
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. ***For P-R/D-J projects, will the project result in any discharge, which will conflict with federal or state air quality regs? (Also see 2a)		X				
f. Other:						

3. <u>WATER</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. *Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?		X				
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of floodwater or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. ****For P-R/D-J, will the project affect a designated floodplain? (Also see 3c)		X				
m. ***For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a)		X				
n. Other:						

4. <u>VEGETATION</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?		X				
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				
f. ****For P-R/D-J, will the project affect wetlands, or prime and unique farmland?		X				
g. Other:						

** 5. FISH/WILDLIFE Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?			X		No	5b
c. Changes in the diversity or abundance of nongame species?			X		No	5c
d. Introduction of new species into an area?			X		No	5d, 5b
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?	X					5f
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?		X				
h. ****For P-R/D-J, will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f)		X				
i. ***For P-R/D-J, will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d)			X		No	5b, 5d
j. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

Comment 5b. The proposed project would increase the abundance and range of pure WCT, a rare and unique resource with limited distribution in the Madison River drainage. This is a minor impact because no displacement of other game fish is expected, and the distribution of a game fish (WCT) would increase. In the long-term, an overall increase in angling opportunities is expected with this project. Westslope cutthroat trout are currently protected by catch-and-release regulations in streams in the Madison River drainage, but restoration efforts like the proposed action are intended to increase overall WCT abundance to allow future harvest of the species in this and other streams.

Comment 5c: The proposed action will introduce WCT into a stream that is currently barren of fish. A potential impact of any fish introduction into a fishless stream is on resident aquatic invertebrates and amphibians.

Because WCT are insectivores, their introduction to Little Tepee Creek could cause changes in the abundance of some aquatic macroinvertebrate taxa. To determine if WCT would impact any unusual, sensitive, threatened or endangered species, macroinvertebrate samples were collected in 2009 from three sites of the fishless reach in Little Tepee Creek and analyzed by David Stagliano, an Aquatic Ecologist with the Montana Natural Heritage Program. Of the 64 macroinvertebrate taxa identified in the collections, none are considered species of special concern. The conclusion of the assessment was

“Currently, from the macroinvertebrate sample data that we analyzed, we find no legitimate reason not to proceed with the introduction of native Westslope Cutthroat Trout into these currently fish-less stream reaches within the Gallatin National Forest. These streams contain typical high-quality, mountain stream macroinvertebrate communities that I've personally sampled and identified in hundreds of other streams containing Westslope and Yellowstone cutthroat trout” (Stagliano 2010). The full report can be obtained by contacting Lee Nelson, FWP, 406-495-3866.

The introduction of WCT into Little Tepee Creek is also unlikely to impact native amphibians. Amphibians sensitive to fish introductions, like the Columbia spotted frog, reproduce in lakes or ponds and would not be affected by the proposed WCT introduction. The only stream breeding species common to the area, the western toad, has co-evolved and co-exists elsewhere with WCT.

Comment 5d: This project would introduce WCT to a stream that is currently barren of fish. While WCT are native to the Madison River drainage, it is unknown if they historically occupied the upper reaches of Little Tepee Creek above the current natural barrier. Also see Comment 5b.

A potential impact of transferring fish or eggs between streams is the introduction of fish pathogens and aquatic nuisance species (ANS). To reduce this potential, WCT introduction procedures would follow established FWP fish health and ANS policies and guidelines, and each donor source would be specifically approved by FWP's Fish Health Committee. Established procedures include not using donor sources that test positive for significant pathogens, and treating eggs with external disinfectants during incubation and prior to transfer between the hatchery and streamside incubators.

Comment 5f. Hybridized WCT currently occupying the lowest reach of Little Tepee Creek (about 1 mile of stream) could be impacted by downstream dispersal of introduced WCT. Based on genetic samples collected in 2009, the hybridized WCT population is comprised of 92% WCT genes, 6% nonnative rainbow trout genes, and 2% nonnative Yellowstone cutthroat trout genes. Hybridization has likely occurred through movement of highly hybridized trout from the mainstem of Tepee Creek into Little Tepee Creek. Because a complete and permanent barrier preventing this movement is not present, the level of hybridization is expected to increase over time. Placement of a permanent barrier to prevent additional invasion of hybridized trout from Tepee Creek is not currently considered feasible or a practical action due to the remote location of the stream and the fact that less than 1 mile of stream would be protected.

If WCT were introduced to the headwaters of Little Tepee Creek, genetically pure WCT would be expected to disperse downstream and likely reproduce with the native, but slightly hybridized, WCT. The potential impacts of downstream dispersal of introduced WCT would largely depend on rate of downstream dispersal, the relative success of spawning between introduced WCT and the native hybridized WCT, and the rate of migration of highly hybridized trout from Tepee Creek into Little Tepee Creek. Specific impacts of downstream dispersal of introduced WCT could include:

1. An increased number of WCT in the lower reaches of Little Tepee Creek, and the occasional presence of genetically pure WCT in Tepee Creek.
2. A reduced level of hybridization resulting from crosses of genetically pure WCT with existing hybridized WCT.
3. Crossing with genetically pure WCT may increase the fitness (i.e., success of reproduction) of the hybridized WCT by increasing the genetic variability of the population, and/or reducing the occurrence of deleterious nonnative rainbow and Yellowstone cutthroat trout genes.

4. Crossing with genetically pure WCT may decrease the fitness of the hybridized WCT if the introduced WCT are not well adapted to the Little Tepee Creek environment. This may decrease the number of hybridized WCT in the lower reaches of Little Tepee Creek.
5. A reduced likelihood that WCT (> 90% pure) would disappear from the lower reaches of Little Tepee Creek due to invasion of highly hybridized trout.
6. Undetectable impacts.

In consideration of all the issues listed above, it is judged that the potential negative impacts are not significant for WCT or recreational fisheries management, and likely any impacts would be beneficial to the existing slightly hybridized WCT population occupying the lower reaches of Little Tepee Creek.

B. HUMAN ENVIRONMENT

6. <u>NOISE/ELECTRICAL EFFECTS</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Increases in existing noise levels?		X				
b. Exposure of people to severe or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				
e. Other:						

7. <u>LAND USE</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				
e. Other:						

8. <u>RISK/HEALTH HAZARDS</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. ***For P-R/D-J, will any chemical toxicants be used? (Also see 8a)		X				
e. Other:						

9. <u>COMMUNITY IMPACT</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				
f. Other:						

10. <u>PUBLIC SERVICES/TAXES/UTILITIES</u>	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. **Define projected revenue sources			X			10e
f. **Define projected maintenance costs.			X			10f
g. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

Comment 10e. This project would be part of the larger WCT conservation program in FWP Region 3, and would be primarily implemented by FWP staff dedicated to such efforts. The WCT conservation program is funded through state (FWP), federal (Fish and Wildlife Service, Forest Service, and Bureau of Land Management), and private (Madison-Gallatin Trout Unlimited) dollars. Only those funds specifically allocated for use in areas such as Little Tepee Creek would be used for the project (FWP, USFWS, Madison-Gallatin TU). As part of the Gallatin National Forest fisheries program, fisheries personnel from the Forest may participate in some aspects of the project. Based on similar introduction efforts in the Elkhorn Mountains near Helena, MT, labor demands would be 10 to 30 man-days per year until self-sustaining populations are established (3 – 5 years).

Comment 10f. Maintenance costs would be minimal with successful establishment of a self-sustaining WCT population after the 3 – 5 year period of introductions.

** 11. <u>AESTHETICS/RECREATION</u>	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. **Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report)		X				
d. ***For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c)		X				
e. Other:						

12. <u>CULTURAL/HISTORICAL RESOURCES</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. **Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. ****For P-R/D-J, will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a)		X				
e. Other:						

SIGNIFICANCE CRITERIA

13. <u>SUMMARY EVALUATION OF SIGNIFICANCE</u> Will the proposed action, considered as a whole:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. ***For P-R/D-J, is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e)						
g. ****For P-R/D-J, list any federal or state permits required.						

PART II. ENVIRONMENTAL REVIEW, CONTINUED

2. Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:

- 1) No Action Alternative

The predicted consequences of the “No Action” alternative are:

- About 2 miles of habitat suitable for WCT conservation would remain fishless.
- The number of genetically pure WCT populations in the Madison River drainage would remain three.
- An opportunity to create a “genetic reserve” of an “at-risk” WCT population (McClure Creek) would not be achieved until additional restoration projects are developed.
- A potential source of genetically pure WCT that could be used to assist in additional WCT restoration efforts would not be established.
- No costs associated with the introduction efforts.

- 2) Preferred Alternative: Introduction of pure WCT to Little Tepee Creek (proposed action)

The predicted consequences of the Preferred Alternative were detailed and discussed in Part I and Part II.

3. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

None

PART III. NARRATIVE EVALUATION AND COMMENT

Addressed in Part I and Part II.

PART IV. EA CONCLUSION SECTION

1. Based on the significance criteria evaluated in this EA, is an EIS required (YES/NO)? If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.

No. An Environmental Impact Statement (EIS) is not required under the Montana Environmental Policy Act (MEPA) because the project lacks significant impacts to the physical or human environment. Therefore, the impacts are appropriately addressed through an Environmental Assessment (EA). The primary impact associated with the

project is increased abundance and distribution of WCT in the Madison River drainage, which is the intended consequence of the action.

2. Describe the level of public involvement for this project if any and, given the complexity and the seriousness of the environmental issues associated with the proposed action, is the level of public involvement appropriate under the circumstances?

The public will be notified of this EA through local newspapers and through contact with local sports groups and others who have previously indicated interest in similar projects. This EA will also be published on the Montana Fish, Wildlife & Parks web page (<http://fwp.mt.gov/default.html>). Public comments will be accepted for a minimum 30 day period. This level of public involvement is believed adequate for the proposed project as similar and recent efforts in FWP Region 3 have produced no significant issues or controversy. If significant concerns are raised concerning this EA, a public open house to discuss the issues will be scheduled.

3. Public comment period and correspondence information:

There is a 30 day comment period for this EA. Written comments can be mailed or emailed to the address below, and must be received by 5:00 pm, June 1, 2010.

Lee Nelson
Montana Fish, Wildlife & Parks
415 South Front Street
Townsend, MT 59644
E-mail: leenelson@mt.gov

4. Name, title, address and phone number of the person(s) responsible for preparing the EA:

Lee Nelson
Fisheries Biologist
Montana Fish, Wildlife & Parks
415 South Front Street
Townsend, MT 59644
Phone: 406-495-3866
E-mail: leenelson@mt.gov

References

- FWP. 2007. Memorandum of Understanding and Conservation Agreement for Cutthroat Trout in Montana. Montana Fish, Wildlife and Parks, Helena, Montana.
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Appendix 1. Proposed WCT Introduction Methodology

The proposed method to establish WCT in the fishless reach of Little Tepee Creek is by introducing fertilized eggs collected from native WCT populations. The introduction of fertilized eggs has been successfully used to establish several WCT populations in the Elkhorn Mountains near Helena, MT, and in Cherry Creek in the Madison River drainage. Compared to transferring live fish between streams, the potential benefits of using fertilized eggs include: being less disruptive to the wild donor populations; a better understanding of the genetic diversity of the established population; a lower chance of spreading disease; and potentially, fish that are produced from introduced eggs will be more “imprinted” to the new stream. Establishing a WCT population with eggs is labor intensive, and we anticipate it would require 3 to 5 years to introduce enough eggs to establish a genetically sound WCT population in Little Tepee Creek.

Specific strategies and timeframe for egg introductions:

1. *Collect adult WCT and eggs from donor populations.* In early to mid June, adult WCT from identified donor populations would be captured with electrofishing or trapping and held on-site in live-cars. To lessen the chance that egg collections will adversely affect the donor populations, only a small number of adults would be captured each year. In previous efforts to collect eggs from upper Missouri River WCT populations, the number adults captured for spawning purposes has ranged from one to 15 females, and five to 40 males. Eggs would be collected and fertilized on site as females “ripen” over what is generally a 2 – 3 week period. All WCT would be returned to the stream after gametes are collected.
2. *Egg incubation – Sun Ranch Fish Hatchery.* Fertilized eggs will be immediately moved to the Sun Ranch Fish Hatchery (near Ennis, MT) for about two weeks of incubation. This private hatchery was built in 2002 specifically for WCT restoration projects. The use of the hatchery is an attempt to reduce egg mortality that may occur with long-term, on-site stream incubation. At the hatchery, eggs from each mating will be kept separate until the viability of the eggs is known. This method will help determine the relative contribution of each female and male to the new population. Prior to placing eggs in Little Tepee Creek, they will be disinfected with formalin and iodine, which are external disinfectants, to minimize possible disease transfer. Eggs will be incubated in the hatchery until about one week pre-hatch.
3. *On-site egg incubation/fry rearing.* One week pre-hatch, eggs will be moved to streamside incubators in Little Tepee Creek. Streamside incubators consist of a 5-gallon plastic bucket, plastic pipes to provide water flow to the bucket, and artificial substrate to provide shelter for eggs and fry. Incubators will be checked 1 or 2 times each week to monitor water flow, remove dead eggs, and monitor egg and fry development. Fry will disperse voluntarily from the incubators after about 2 to 4 weeks of additional development. Egg introductions should be completed by late August each year.

Attachment 1. Gallatin National Forest Letter of Support.



United States
Department of
Agriculture

Forest
Service

Gallatin National Forest

Hebgen Lake Ranger District
P.O. Box 520
West Yellowstone, MT 59758
Phone: 406-823-6961
Fax: 406-823-6990

File Code: 2670

Date: April 13, 2010

Pat Flowers
Regional Supervisor
Montana Fish, Wildlife, and Parks
1400 S. 19th Street
Bozeman, MT 59718

Dear Pat:

The Hebgen Lake Ranger District understands Montana Fish, Wildlife and Parks (MFWP) is proposing to introduce genetically pure westslope cutthroat trout into upper Little Tepee Creek (Introduction of Westslope Cutthroat Trout to Little Tepee Creek, Madison River Drainage). As signatories to the cutthroat trout Memorandum of Understanding (MOU) in Montana, we understand the need for this project for cutthroat trout conservation overall and specifically within the Madison River sub-basin. The Hebgen Lake Ranger District fully supports this project and is willing to assist MFWP with its implementation.

In conjunction with this proposal, Hebgen Lake Ranger District is proposing two projects within this small drainage that will improve aquatic habitat and help secure this new population. The barrier culvert along FS Road # 986 near the trailhead is scheduled to be replaced with a new atv/snowmobile bridge allowing the westslope cutthroat trout population full access to headwater habitats. This proposal also includes pulling back the existing trailhead 200 yards to the west of Little Tepee Creek to a site with a much larger turnaround with adequate parking and reducing sediment sources near the stream.

I believe these actions demonstrate Hebgen Lake Ranger District is managing the Little Tepee Creek drainage in a way that meets the intent of the multi-agency agreement to secure and restore native cutthroat trout. We will continue to work with you and our other partners to protect your investment in this project.

We will soon be starting on our Hebgen-Duck Landscape Assessment which is a process to identify and prioritize restoration opportunities across the north side of Hebgen Lake and Madison River. We anticipate including MFWP in this process.

If you have any questions or comments, please contact Bruce Roberts, west zone fisheries biologist, at (406) 522-2544.

Sincerely,

LAUREN J TURNER
DISTRICT RANGER



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